

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1-10 (cancelled).

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11 (currently amended): A driving circuit for driving a liquid crystal display, the liquid crystal display comprising:

a liquid crystal panel, the liquid crystal panel comprising:

a plurality of scan lines;

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a plurality of data lines; and

a plurality of pixels, each pixel is connected to a corresponding scan line and a corresponding data line, and each pixel has a switching device connected to the corresponding scan line and the corresponding data line;

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the driving circuit comprising:

a scan line driving circuit for continuously providing scan voltages to the scan lines;

an image data input terminal for receiving an M-bit image data;

a bit processor for extracting N most significant bits (MSB) from the M-bit image data to form an N-bit image data, N is smaller than M;

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an image memory for storing the N-bit image data and delaying the N-bit image data by a frame period;

a comparison circuit for comparing P MSB of a current M-bit image data with the N-bit delayed image data to determine a result value;

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a lookup table (LUT) for outputting an M-bit over-driving image value in accordance with the P MSB and the N-bit delayed image data;

a multiplexer for outputting the M-bit over-driving image value when the result



value indicates that the P MSB of the current M-bit image data and the N-bit delayed image data are not equal, and for outputting the M-bit image data when the result value indicates that the P MSB of the current M-bit image data and the N-bit delayed image data are equal; and  
5 a data line driving circuit for forming a data voltage in accordance with output of the multiplexer, and providing the data voltage to the corresponding data line.

12 (currently amended): The driving circuit of claim 11 further comprising:  
10 a temperature detector for detecting temperature of the liquid crystal panel, and producing a temperature compensation signal in accordance with temperature of the liquid crystal panel;  
a memory for storing a plurality of tables; and  
a selector for selecting a reference table from the plurality of tables stored in the  
15 memory in accordance with the temperature compensation signal, and transferring the selected reference table to the LUT to make the LUT output the M-bit over-driving image value in accordance with the selected reference table.

13 (previously presented): The driving circuit of claim 12 wherein the reference table is  
20 recorded with  $(2^N \times 2^P)$  image data values.

14 (original): The driving circuit of claim 11 wherein P is greater than N.

15 (original): The driving circuit of claim 11 wherein P equals N.  
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16 (currently amended): A driving circuit for driving a liquid crystal display, the liquid crystal display comprising:  
a liquid crystal panel, the liquid crystal panel comprising:



a plurality of scan lines;  
a plurality of data lines; and  
a plurality of pixels, each pixel is connected to a corresponding scan line and a  
corresponding data line, and each pixel has a switching device connected  
5 to the corresponding scan line and the corresponding data line;  
the driving circuit comprises:  
a scan line driving circuit for continuously providing scan voltages to the scan  
lines;  
a image data input terminal for receiving an M-bit image data;  
10 a bit processor for extracting N most significant bits (MSB) from the M-bit image  
data to form an N-bit image data, N is smaller than M;  
an image memory for storing the N-bit image data and delaying the N-bit image  
data by a frame period;  
a comparison circuit for comparing P MSB of a current M-bit image data with the  
15 N-bit delayed image data to determine a result value;  
a lookup table (LUT) for outputting an over-driving image value in accordance  
with the P MSB and the N-bit delayed image data;  
a multiplexer for outputting Q least significant bits (LSB) of the over-driving  
image value when the result value indicates that the P MSB of the current  
20 M-bit image data and the N-bit delayed image data are not equal, and for  
outputting Q LSB of the M-bit image data when the result value indicates  
that the P MSB of the current M-bit image data and the N-bit delayed image  
data are equal; and  
a data line driving circuit for producing a data voltage in accordance with output  
25 of the multiplexer and (M-Q) MSB of the over-driving image value, and  
providing the data voltage to the corresponding data line.

17 (currently amended): The driving circuit of claim 16 further comprising:



- a temperature detector for detecting temperature of the liquid crystal panel, and  
producing a temperature compensation signal in accordance with temperature of  
the liquid crystal panel;
- a memory for storing a plurality of tables; and
- 5 a selector for selecting a reference table from the plurality of tables stored in the  
memory in accordance with the temperature compensation signal, and  
transferring the selected reference table to the LUT to make the LUT output the  
over-driving image value in accordance with the selected reference table.
- 10 18 (previously presented): The driving circuit of claim 17 wherein the reference table is  
recorded with  $(2^N \times 2^P)$  image data values.
- 19 (original): The driving circuit of claim 16 wherein P is greater than N.
- 15 20 (original): The driving circuit of claim 16 wherein P equals N.